

Application No.: 10/785,554

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Docket No.: 299002052010

Client Reference No.: F5-0436062/00R00651-1/US

REMARKS

Claims 9 and 10 are pending in the present application. Accordingly, claims 9-10 are currently under consideration.

Rejections under 35 USC § 103

Claims 9 and 10 are rejected under 35 USC § 103(a) as allegedly being unpatentable over Kato et al. (2002/0149024) in view of Fujii et al. (JP 2000-031600).

With respect to claim 9, the applicants assert that neither Kato et al. nor Fujii et al individually or in combination teach all the limitations of claim 9, as currently recited. At a minimum, the cited references fails to teach wherein the step of growing the p-type layer includes the step of growing a nitride semiconductor material in an atmosphere not containing hydrogen gas while keeping a temperature of the substrate at a **first growth temperature**". (Emphasis added.)

The Examiner asserts that the sole difference between the instant claims and the reference Kato is the conditions of the p-type layer growth. The Examiner then states that "the Fujii et al reference teaches growing the p-type layer in a non hydrogen atmosphere and at **lower temperatures**, note figures and abs". (Emphasis added.)

The Examiner further asserts that "it would have been obvious to one of ordinary skill in the art to modify the Kato et al reference by the teachings of the Fujii et al reference to use **lower temperatures** and no hydrogen in order to not passivate [sic] the top layer increasing the operating temperatures." (Emphasis added.)

However, it is disclosed in the present specification, for example, that: "the step of **forming the p-type contact layer** 15 (p-type layer) included growing a nitride semiconductor material in an atmosphere not containing hydrogen gas while keeping the **substrate temperature** at about **1050 °C. (first growth temperature)**" (p see, e.g., paragraph [0042] of the Published Application US 2004/0166599 A1, hereinafter referred to as "P1"). (Emphasis added.)

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Prior to the forming of the p-type contact layer 15, the multiple quantum well structure active layer 13 and the anti-evaporation layer 14 were formed at a substrate temperature of about 760 °C. (Please see, e.g., paragraphs [0042] and [0043] of P1).

In other words, the present invention uses a higher temperature and no hydrogen to grow the p-type layer. This is different from the teachings of Fujii, which discloses growing the p-type layer using lower temperature and no hydrogen, as mentioned above (please also see page 2 of the outstanding Office Action).

In light of the above arguments, the rejection of claim 9 should be withdrawn.

The rejection of claim 10 should be withdrawn for at least the reason that it depends on an allowable base claim.

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CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing Attorney Docket No. 299002052010. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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